

## TWO MEXICAN SPECIES OF XEROMEGACHILE

(Hymenoptera, Megachilidae)

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All previous records of the occurrence of species of the subgenus *Xeromegachile* have been in the United States and southwestern Canada. It is of interest and some importance, therefore, to discover a new species from Mexico and also to record a previously described species from that country. Both records, however, are from Sonora in northwestern Mexico, indicating a relatively slight penetration southward. Moreover, it is quite likely that ecologically the localities in which these two species were collected are more closely related to the regions north of the Mexican border than to the regions further south. All of the evidence indicates that *Xeromegachile* is of recent origin. It includes more species than any other nearctic group of *Megachile*, the great majority of them occurring in the western United States which evidently is the center of origin of the group. These Mexican records, being so exceptional, give added support to the conclusions to be drawn from the other facts concerning the distribution of the group.

*Megachile* (*Xeromegachile*) *boharti* Mitchell, new species

This is a close relative of *M. legalis* Cresson, the female of which has not been discovered. The male differs from *legalis* most conspicuously in the shape of the carina of segment 6 of the abdomen. This is nearly as long as it is broad in *legalis* and is markedly convex in profile, while in *boharti* it is very short and broad, obtusely triangular, and is straight in profile. Other differences are to be observed but are less evident.

Female. Size: length, 11 mm.; breadth of abdomen, 4 mm.; anterior wing, 7.5 mm.

Structure: Length and breadth of face subequal; eyes subparallel; clypeal margin straight and entire; mandible 4-dentate, the cutting edge between the third and fourth teeth quite short;

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basal joint of flagellum very slightly longer than the pedicel or the second joint which are subequal; lateral ocelli equidistant from eyes and edge of vertex; margin of vertex nearly straight; cheeks below broader than eyes, narrowed above; mid and hind metatarsi shorter and slightly narrower than their tibiae; abdominal terga with well defined basal grooves, that on the fifth segment entire, the apical margin depressed laterally, but only very slightly so medially; sixth tergum in profile straight and with very short erect hairs visible, the surface slightly impressed on each side of an obscure median ridge.

Punctuation: Close, deep and quite coarse on clypeus, the supraclypeal area shining and sparsely punctate medially; shallow, minute and close on the shining cheeks; deep, but rather fine, separated by about their own width on vertex; slightly more coarse on mesonotum and scutellum, sparse medially, close laterally; rather shallow and close on pleura, becoming more coarse below; minute, obscure and very close on abdomen basally, becoming deeper and more distinct but still quite close, to the fifth tergum, very fine and crowded on the sixth.

Color: Black; wings lightly infuscated; tegulae, wing nervures, and antennae beneath deep ferruginous to piceous; spurs ferruginous.

Pubescence: Rather short in general; entirely white on face, cheeks, pleura, propodeum, legs and basal segment of abdomen, but pale ferruginous beneath tarsal joints; mostly black on vertex, disc of mesonotum, scutellum and discs of abdominal segments 2-6, the mesonotum anteriorly and laterally with some white pubescence and the scutello-mesothoracic suture obscurely white fasciate; segments 1-5 of abdomen with entire white apical fasciae; segment 6 with some inconspicuous silvery tomentum, this becoming brownish at tip; scopa entirely white except for a few black hairs on sixth sternum apically.

Male. Size: length, 11 mm.; breadth of abdomen, 3 mm.; anterior wing, 7 mm.

Structure: Face as broad as long; eyes subparallel; clypeal margin beneath beard straight and entire; mandible 3-dentate, the acute inferior projection subbasal; basal joint of flagellum very slightly longer than the pedicel, slightly shorter than the second joint, the apical joint slightly dilated; lateral ocelli equidistant from eyes and edge of vertex; cheeks below broader than eyes, narrowed above; front coxae with quite slender acute divergent spines, bare anteriorly and with a patch of ferruginous bristles at base of spines; front femora moderately dilated toward apex; front tarsi slender, the anterior margin of metatarsus with a barely recognizable excavation; mid and hind metatarsi short and slender; apical margins of abdominal terga depressed toward sides of second and third segments, entirely so on fourth and fifth segments, the basal grooves without carinate margins posteriorly;

carina of sixth tergum obtusely triangular, margin on each side of median angle straight, but to a slight degree crenulate, upper surface of disc with a short median ridge, the disc straight in profile; apical margin of sixth tergum with broad carinate median teeth which are nearer to the obscure lateral angles than to each other; seventh tergum produced medially into a short acute spine.

Genital armature: Stipites compressed above base, dilated and flexed apically, this apical portion beset with numerous long curved hairs; sagittae slightly exceeding the stipites in length; volsellae with triangularly pointed tips.

Punctuation: Fine and densely crowded on clypeus and cheeks; deeper and definitely separated, but fine, on the shining vertex; rather fine on thorax, densely crowded on pleura, relatively sparse in center of mesonotum and scutellum, close laterally on these discs; minute and very close on abdomen basally, becoming more deep and distinct, but still very fine, to the fifth tergum, close and irregular on the sixth above the carina.

Color: Black; wings lightly infuscated; tegulae, wing nervures and antennae beneath deep ferruginous to piceous; spurs yellowish-ferruginous; posterior face of front femur and outer face of its tibia black, otherwise these leg joints ferruginous, the front tarsi yellowish-ferruginous, the posterior margin beneath the fringe piceous, forming distinct dark spots on the second and third joints.

Pubescence: Entirely white on head, thorax and first segment of abdomen, except for some blackish pubescence on vertex and mesonotum, a few dark hairs on scutellum and yellowish-ferruginous setae beneath the tarsal joints; discs of segments 2-6 with black pubescence apically, whitish basally; the more apical segments with basal appressed white tomentum; all of the segments with entire white apical fasciae; the sternal plates with long thin white apical fringes.

Type, female, No. 5231, Calif. Acad. Sci., Ent., San Bernardo, Sonora, Mexico, March 25, 1935 (R. M. and G. E. Bohart). Allotype, male, topotypical. Paratypes, one male and two females, topotypical.

#### MEGACHILE (XEROMEGACHILE) INSTITA Mitchell

This species has been recorded previously only from New Mexico.

Mexico: One male, N. Sonora (Morrison) [Godman and Salvin Coll., Brit. Mus., 1913-214].